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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,378	10/21/1999	TATSUYA SHIMODA	9319T-000011	5460

7590 10/21/2003  
HARNES DICKEY & PIERCE PLC  
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BLOOMFIELD HILLS, MI 48303

EXAMINER

WILLIAMS, KEVIN D

ART UNIT	PAPER NUMBER
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2854

26

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant N .

09/422,378

Examiner

Kevin D. Williams

Applicant(s)

SHIMODA ET AL.

Art Unit

2854

Re  
-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 17 September 2003.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-9, 11, 13-18 and 27-50 is/are pending in the application.

4a) Of the above claim(s) 45-50 is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-9, 11, 13-18 and 27-44 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some \* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 27-32, 34, and 35 is rejected under 35 U.S.C. 102(e) as being anticipated by Pannekoek (4,748,464).

Pannekoek teaches a printing device comprising a head 10 being a first rotary drum placed in a position so that the head forms an electric field towards an electronic paper, a plurality of pixels 2,4 on the head, each pixel independently forming an electric field, a plurality of first electrodes 2,4 each corresponding to a respective pixel, a second electrode 12 being a second rotary drum and opposing the first drum, and a mechanism for rotating at least one of the first rotary drum and the second rotary in a direction opposite to the direction that the other drum rotates.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 9, 11, 13-16, 27-32, 34, 35, 37-40, and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent (5,866,284) in view of Pannekoek.

With respect to claims 1-5, 8, 9, 11, 13-16, 37-40, and 42-44, Vincent teaches a printing system comprising a plurality of capsules 100 that are caused to move by applying an electric field, a drum-shaped head 210 having a curved shape with a surface for holding an electric charge, a pair of drums 210,250, another drum having on an outer circumferential surface a common electrode that form an electric field together with said surface of the drum-shaped head, and an erasing head 230.

With respect to claims 37-40 specifically, Vincent teaches a first drum head 230 that forms an electric field for resetting a pre-written pattern, a second drum head 210 that writes a pattern.

With respect to claims 27-32, 34, and 35, Vincent teaches an electronic paper printing device comprising a first rotary drum 210 having a curved part on a surface of a drum, a second electrode 250 opposing the first drum, and a mechanism for rotating at least one of the first rotary drum and the second rotary drum in opposite directions.

Vincent does not teach a drum-shaped head having on an outer circumferential surface a plurality of pixels in a matrix that form electric fields, the first and second heads comprising a plurality of electrodes, each of the electrodes corresponding to a respective pixel, and each of the pixels independently forming an electric field while the first rotary drum is rotating.

Pannekoek teaches a drum-shaped head 10 having on an outer circumferential surface a plurality of pixels 2,4 in a matrix that form electric fields, a plurality of

electrodes 2,4, each of the electrodes corresponding to a respective pixel, and each of the pixels independently forming an electric field while the first rotary drum is rotating.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vincent to have the pixel electrodes on the outer circumference of the drum as taught by Pannekoek, in order to more accurately control the images areas, since the electric field on a particular point on the drum can be changed up until the moment right before that point touches the paper. In the Vincent device the field can not be changed on a particular point once that point passes the corona charger.

5. Claims 6, 7, 17, 18, 33, 36, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent in view of Pannekoek as applied to claims 1-5, 8, 9, 11, 13-16, 27-32, 34, 35, 37-40, and 42-44 above, and further in view of Haas et al. (6,100,909).

Vincent in view of Pannekoek teach the claimed invention except for the plurality of switching elements.

Haas teaches a paper printer comprising a plurality of switching elements.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vincent in view of Pannekoek to have the plurality of switching elements as taught by Haas, in order to accurately control the image forming process.

### ***Response to Arguments***

6. Applicant's arguments filed 9/17/2003 have been fully considered but they are not persuasive.

Applicants argue that since claims 27 and 34 have been amended to call for an electronic paper printing device in the preamble, the Pannekoek device which uses toner does not anticipate the instant invention. Claims 27 and 34 have been rejected under 35 U.S.C. 102(e). A reference anticipates an invention if it meets all of the structural limitations of the claims.

Applicants argue that neither Vincent nor Pannekoek contain any teaching, suggestion, or motivation to combine their respective teachings. Applicants further state that there is no teaching that suggests that the Vincent device may be modified to include the plurality of pixel electrodes taught by Pannekoek. Vincent, in the background of invention section, admits that pixel electrodes can be used in conjunction with electronic re-writable paper. See column 2, lines 13-27. This is a suggestion that pixel electrodes may be used with the electronic re-writable paper of the Vincent device.

Applicants argue that the combination of Vincent and Pannekoek would change the principle operation of the Vincent device. Applicants further state that by modifying the device of Vincent to include the electrodes of Pannekoek, the corona charger of Vincent would be eliminated and therefore, Vincent's basic principle of operation would be completely altered. Holding an invention unpatentable over one reference in view of another reference based on the modification of the first reference in view of a teaching by the second reference is the very essence of the 35 USC § 103 statute. This modification often requires eliminating an element and replacing it with another element. Here, the combination of Vincent and Pannekoek would eliminate the corona charger and modify the drum 210 of Vincent to have pixels as taught by Pannekoek. The

principle operation of Vincent, which is to produce an electric field and therefore create images on the electronic paper, is not changed by the combination of Vincent and Pannekoek.

Applicants argue that Vincent teaches away from the use of electrodes and that this teaching away is evidenced by column 2, lines 13-27 of Vincent. Vincent points to several factors in asserting that the use of electrodes is impractical, including cost and print speed. Vincent, however, does not teach away from the use of electrodes in a manner that would indicate that electrodes would not be compatible with the invention. In fact, Vincent notes that the use of electrodes provides the advantage of a compact printer. While using electrodes might be more expensive and inferior to other methods, Vincent indicates that it is conventional to use electrodes arrays and that they are even advantageous. Therefore, Vincent does not teach away from the use of electrodes in a manner that overcomes the outstanding rejection. See MPEP 2145 (X)(D)(1).

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin D. Williams whose telephone number is (703) 305-3036. The examiner can normally be reached on Monday - Friday, 8:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

KDW

October 20, 2003



ANDREW H. HIRSHFELD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800